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10/595,896	05/18/2006	Thomas Klein	72233	8699
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EXAMINER				
DANG, KET D				
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3742				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/595,896

Applicant(s)

KLEIN, THOMAS

Examiner

KET D. DANG

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 12, 2010 has been entered.

This office action is responsive to the amendment filed on May 12, 2010. As directed by the amendment: claims 1, 6, 11, 18, 19, and 20 have been amended, claim 17 has been cancelled. Thus, claims 1-16 and 18-21 are presently pending in this application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show where exactly a stator is by using a reference number, not relative to other elements as described in the specification. The drawings must show every feature of the invention specified in the claims. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement

drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-16 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 10-12, 14-15, 18, and 20, the phrase "can be" in the claim renders the claim indefinite for not providing positive limitation.

In claim 1, recites the limitations "the welding process" at line 15, "the rotational axis of the connection device" at line 22, and "the rotational axis" at line 23 in the claim has no antecedent basis. Furthermore, the phrase "and/or" at line 17 in the claim renders the claim indefinite is indefinite per se.

In claim 4, recite the limitation "the leadthrough of the receiving device" at line 3 in the claim. There is insufficient antecedent basis for this limitation in the claim. It is unclear and indefinite to the relationship between "the leadthrough of the receiving device" and "a lead through of the receiving device" at line 2 and to whether they are the same or different. Further clarification is required to either further differentiate (the leadthrough of the receiving device) or provide proper antecedent basis.

In claim 5, recites the limitations "the rotational axis of the rotatory motion", "the rotatory motion", and "the connection flange" at line 3 in the claim has no antecedent basis. For instant, It is unclear and indefinite to the relationship between "the rotatory motion" at line 3 and "rotatory motions" at lines 6-7 in claim 1 and to whether they are the same or different. Further clarification is required to either further differentiate (the rotatory motion) or provide proper antecedent basis.

In claim 7, recites the limitation "a stator" at line 4 in the claim renders the claim indefinite. It is unclear for whether this stator is the same as the one recited at line 12 in claim 1. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested.

In claim 8, recites the limitation "receiving device contact" at line 2 in the claim renders the claim indefinite. It is unclear for whether this receiving device contact is the

same as the one recited at line 4 in claim 7. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested. The limitation "the rotational axis of these elements" at line 3 has no antecedent basis. Furthermore, the limitation "these elements" at line 3 in the claim renders the claim indefinite. It is unclear for whether this "these elements" is the same as the "elements" recited at line 2. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested.

In claim 11, recites the limitation "contact partners" at line 3 in the claim renders the claim indefinite. It is unclear for whether this contact partners is the same as the "a contact partner" recited at line 3 in claim 10. Further clarification is required to further differentiate.

In claim 18, recites the limitations "the welding process" at line 12 and "the fixing device rotor" at line 17 in the claim has no antecedent basic. There is also a duplication of the word "the" at line 17 as well. The limitation "a rotor" at line 14 in the claim renders the claim indefinite. It is unclear for whether this rotor is the same as the one recited at the same line 14. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested. Furthermore, the phrase "and/or" at line 15 in the claim renders the claim indefinite is indefinite per se.

In claim 19, recites the limitation "a rotational axis of the connection device" at line 4 in the claim renders the claim indefinite. It is unclear for whether this rotational axis of the connection device is the same as the one recited at line 22 in claim 1.

In claim 20, recites the limitation "the welding process" at lines 13-14, "the rotational axis of the connection device" at lines 19-20, and "the rotational axis" at line 21 in the claim has no antecedent basis.

In general, the claims are *replete* with such 35 U.S.C. 112, second paragraph issues. The above notes are exemplary with respect to all of the 35 U.S.C. 112, second paragraph rejections present in the instant case, all claims must be carefully reviewed and appropriate corrections should be made in response to this rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haczynski et al. (US Pat No. 5,866,874) in view of Tsutsumi (EP 1358973 A1) and further in view of Suita et al. (US 5990442).

7. Regarding claims 1 and 19, Haczynski et al. disclose a fixing device (col. 3, lines 55-56) for attaching the welding torch device 10 (Fig. 1) (Abstract) to the welding robot (Abstract) (col. 1, lines 16-18); a receiving device 26 (Fig. 1) for holding a welding torch 10 (Fig. 1) and for transferring driven rotatory (col. 3, lines 55-56) motions to the welding torch; an electrical connection for a welding power cable 20 (Fig. 1) (col. 3, lines 42-44), by means of which a robot side of the welding torch device can be electrically

connected to a welding power source (Fig. 1) (col. 3, lines 44-47); a current transfer device 22, via which the welding power cable 20 (Fig. 1) (col. 3, lines 42-44) can be electrically connected to a welding torch 10 (Fig. 1) side of the welding torch device, an essentially centric leadthrough, through which expendable supply material (col. 3, lines 40-66) required for the welding process can be guided in the direction of the receiving device 26 (Fig. 1); the receiving device 26 (Fig. 1) and/or the fixing device are connected to the stator in an electrically conductive manner by means of an electric contact means (col. 5, lines 60-64); and wherein an introduction of supply material into the welding torch the leadthrough is coaxial 14 (fig. 1) arranged in the welding torch device and has a recess with a longitudinal axis which is in alignment with a rotational axis of the connection device (col. 3, lines 60-66; col. 4, lines 6-52; col. 6, lines 37-62).

Haczynski et al. fail to disclose wherein the current transfer device has a stator, which is provided for the rotationally fixed arrangement in relation to the robot arm, but can be rotated in relation to the connection device on the welding robot side; wherein the receiving device and the fixing device are embodied as rotors, which, as a result, are rotatable in relation to the stator; and a rotational axis of the rotor is at least essentially aligned with the rotational axis of the connection device of the robot and the rotor can be rotated about the rotational axis as well as about the stator; the stator being an inner stator which is surrounded by the rotor as an outer rotor.

However, Tsutsumi teaches wherein the current transfer device has a stator 1 (Fig. 1) (abstract), which is provided for the rotationally fixed arrangement in relation to the robot arm (Page 2, paragraphs 0002 and 0009), but can be rotated in relation to the

connection device on the welding robot side; wherein the receiving device and the fixing device are embodied as rotors 6 (Fig. 1), which, as a result, can be rotated in relation to the stator 1 (Fig. 1) (Page 6, paragraph 0045); and a rotational axis of the rotor (Page 4, paragraph 0024) is at least essentially aligned with the rotational axis of the connection device of the robot and the rotor can be rotated about the rotational axis as well as about the stator. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Haczynski's reference, to include a stator, a robot arm, and rotors, as suggested and taught by Tsutsumi, for the purpose of passing different electric signals among robot welding components (Page 2, paragraph 0008).

Similarly, the stator being an inner stator which is surrounded by the rotor as an outer rotor is known in the art. Suita et al., for example, teaches the stator 16 (fig. 1) being an inner stator which is surrounded by the rotor 17 (fig. 1) as an outer rotor (see figure 1; abstract; col. 4, lines 3-16). Suita further teaches such a configuration provides a means to allow the rotor to move relative to the workpiece (col. 2, lines 35-38). It would have been obvious to one of ordinary skill in the art to modify Haczynski with the features above of Suita in order to allow the rotor to move relative to the workpiece.

With respect to claims 18 and 20, Haczynski et al. disclose a welding robot for welding workpiece, comprising a welding torch device connected to said flange comprising a fixing device (col. 3, lines 55-56) for attaching the welding torch device 10 (Fig. 1) (Abstract) to the welding robot (col. 1, lines 16-18); a receiving device 26 (Fig. 1)

for holding a welding torch; an electrical connection for a welding power cable 20 (Fig. 1) (col. 3, lines 42-44), by means of which a robot side of the welding torch device (col. 2, lines 25-26) can be electrically connected to a welding power source 22 (Fig. 1) (col. 3, lines 44-47); an essentially centric leadthrough of the stator, through which expendable supply material (col. 3, lines 40-66) required for the welding process can be guided in the direction of the receiving device 26 (Fig. 1); and the receiving device and/or the fixing device can be connected to the stator in an electrically conductive manner by means of an electric contact means (col. 5, lines 60-64); the fixing device (col. 3, lines 55-56) of the rotor, being designed for attaching to the connection device of the robot,

Haczynski et al. fail to disclose a arm robot provided with a connection flange/device; a rotor arrangement; wherein the current transfer device has a stator, which is provided for the rotationally fixed arrangement in relation to the robot arm, but can be rotated in relation to the connection flange on the welding robot side; wherein the receiving device and the fixing device are embodied as rotors, which, as a result, can be rotated in relation to the stator; and a rotational axis of the rotor is at least essentially aligned with the rotational axis of the connection device of the robot and the rotor can be rotated about the rotational axis as well as about the stator assembly; the stator being an inner stator which is surround by the fixing device rotor as an outer rotor.

However, Tsutsumi teaches arm robot (Page 2, paragraphs 0002 and 0009) provided with a connection flange 9 (Fig. 1); a rotor arrangement (paragraphs 0002, 0009, and 0016); wherein the current transfer device has a stator 1 (Fig. 1), which is

provided for the rotationally fixed arrangement in relation to the robot arm (Page 2, paragraphs 0002, and 0009), but can be rotated in relation to the connection device on the welding robot side; wherein the receiving device and the fixing device are embodied as rotors 6 (Fig. 1), which, as a result, can be rotated in relation to the stator (Page 2, paragraphs 2 & 9); and a rotational axis (Page 4, paragraph 0024) of the rotor is at least essentially aligned with the rotational axis of the connection device of the robot and the rotor 6 (Fig. 1) can be rotated about the rotational axis as well as about the stator assembly (1 (Fig.1)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Haczynski's reference, to include flange, a stator, a rotor, and rotational axis as suggested and taught by Tsutsumi, for the purpose of improving structure of robot welding components (Page 2, paragraph 0008) thereby enabling passing different electric signals.

Similarly, the stator being an inner stator which is surrounded by the rotor as an outer rotor is known in the art. Suita et al., for example, teaches the stator 16 (fig. 1) being an inner stator which is surrounded by the rotor 17 (fig. 1) as an outer rotor (see figure 1; abstract; col. 4, lines 3-16). Suita further teaches such a configuration provides a means to allow the rotor to move relative to the workpiece (col. 2, lines 35-38). It would have been obvious to one of ordinary skill in the art to modify Haczynski with the features above of Suita in order to allow the rotor to move relative to the workpiece.

8. Claims 2-16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haczynski et al. (US Pat No. 5,866,874) in view of Tsutsumi (EP 1358973 A1).

9. Regarding claims 2-7 and 21, Haczynski et al. disclose the claimed invention and wherein a longitudinal axis (See Figure 3) of the leadthrough is aligned with the rotational axis of the connection device (col. 4, lines 6-52; col. 6, lines 37-62); a leadthrough of the receiving device for welding wire (col. 4, line 31-34) for the welding torch 10 (Fig.1), whereby the leadthrough of the stator and the leadthrough of the receiving device 26 (Fig.1) run at least essentially coaxially to one another; wherein a longitudinal axis (col. 4, lines 11-15) of a recess of the leadthrough of the stator assembly runs at least essentially coaxially to the rotational axis of the rotatory motion of the connection flange 9 (Fig. 1) on the robot side or to rotational axis of the rotatory motion of the connection device (col. 6, lines 37-62); wherein: the electrical connection for the welding power is lead through the fixing device with which the welding torch device is attachable to the connection device of the robot, whereby the rotational axis with which the rotor is rotatable is at least essentially aligned to the rotational axis of the connection device (col. 3, lines 40-59); a common rotational axis of the fixing device (col. 3, lines 55-56), the receiving device runs coaxially to a longitudinal axis (col. 4, lines 11-15) of the leadthrough of the stator; further comprising insulating medium, which electrically insulates (col. 3, lines 37-39) the fixing device from the stator, whereby the stator and the receiving device 26 (Fig. 1) are connected to one another in an electrically conductive manner by means of a stator to receiving device contact means;

Haczynski et al. fail to disclose wherein the stator assembly has a rotationally fixed electric connection for the welding cable, through which the rotational axis of the connection device runs whereby the electrical connection is arranged within the stator.

However, Tsutsumi teaches wherein the stator 1 (Fig. 1) has a rotationally fixed electric connection (Page 4, paragraph 0024) for the welding cable 25 (Fig. 1), through which the rotational axis of the connection device runs whereby the electrical connection is arranged within the stator (paragraphs 0003 and 0032). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Haczynski's reference, to include a stator, electric connection, and welding cable as suggested and taught by Tsutsumi, for the purpose of passing different electric connections among robot welding components (Page 2, paragraph 0008).

With respect to claims 8-13, Haczynski et al. disclose the claimed invention, except for wherein the stator to receiving device contact means has elements, which are rotated together with the rotor about an axis, whereby the rotational axis of these elements are aligned with the rotational axis of the connection device of the robot; wherein the contact means is embodied as a sliding contact means; further comprising a force means, with which at least one said sliding contact element of the sliding contact means can be pressed against a contact partner; two force means, with which the at least one sliding contact element can be pressed against contact partners in the axial and radial directions in relation to the axis of the rotatory motion; wherein the force means are springy, and the at least one sliding contact element can be pressed against

both a first contact partner radially surrounding the leadthrough; and a second contact partner axially offset to the sliding contact element; a bell-shaped section of the stator, in which the sliding contact means is arranged.

However, Tsutsumi teaches wherein the stator 1 (Fig. 1) to receiving device contact means has elements, which are rotated together (Page 6, paragraph 0045) with the rotor 6 (Fig. 1) about an axis, whereby the rotational axis (Page 4, paragraph 0024) of these elements are aligned with the rotational axis of the connection device of the robot (Page 2, paragraphs 0002 and 0009); wherein the contact means is embodied as a sliding contact means 26 (Fig. 1) (Paragraph 33); further comprising a force means (Page 5, paragraph 0033), with which at least one said sliding contact element (Page 5, paragraph 0033) of the sliding contact means can be pressed against a contact partner; two force 48 (two sides Fig. 1) means, with which the at least one sliding contact element 26 (Fig. 1) can be pressed against contact partners in the axial and radial directions in relation to the axis of the rotatory motion (Page 4, paragraph 0024); wherein the force means are springy 48 (Fig. 1) (Paragraph 52), and the at least one sliding contact element 26 (Fig. 1) can be pressed against both a first contact partner radially surrounding the leadthrough; and a second contact partner axially offset to the sliding contact element 26 (Fig. 1); a bell-shaped section of the stator 1 (Fig. 1), in which the sliding contact means 26 (Fig. 1) is arranged. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Haczynski's reference, to include rotational axis, sliding contact means, and springy as

suggested and taught by Tsutsumi, for the purpose of reducing the sliding friction of near by elements (Page 2, paragraph 0005).

With respect to claims 14-16, Haczynski et al. disclose the claimed invention and wherein the leadthrough is provided with a recess through which both welding wire (col. 4, lines 31-34), and inert gas (col. 1, lines 20-24) can be fed to the welding torch 10 (Fig. 1) as the expendable supply material (col. 3, lines 40-66); wherein the electric connection for the welding power cable 20 (Fig. 1) (col. 3, lines 42-44) is part of a wall defining the recess,

Haczynski et al. fail to disclose insulating medium, by means of which the fixing device can be electrically insulated against the current transfer device.

However, Tsutsumi teaches insulating medium 49 (Fig. 2) (Page 6, paragraph 0041), by means of which the fixing device can be electrically insulated against the current transfer device. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Haczynski's reference, to include insulating medium as suggested and taught by Tsutsumi, for the purpose of interposing insulator between electrode and spring (Page 6, paragraph 0041).

Response to Amendment/Arguments

10. Applicant's amendments/arguments with respect to claims 1-16 and 18-21 have been considered but are moot in view of the new ground(s) of rejection. However, upon

further consideration, a new ground(s) of rejection is made in view of *Suita et al.* (US 5990442).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571) 270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D DANG/
Examiner, Art Unit 3742
July 27, 2010

/TU B HOANG/
Supervisory Patent Examiner, Art
Unit 3742